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ABSTRACT

This paper presents a multi-model approach to early childhood education programing as a means of achieving the most rewarding experience for children of differing needs and backgrounds as well as maximizing the effects of teacher personality and style. The negative social consequences of inadequate programing, particularly for lower class and minority children, are noted. Single model programing is discussed and found inadequate when constructing a model for all of early childhood education. A brief review of three competing models (Montessori, DISTAR, and Cognitive Stimulation) is given. The multi-model method is described in terms of three major classes of variables (child variables, curriculum variables, teacher variables) that must be considered when selecting a curriculum. It is proposed that each school select several curricula to be implemented simultaneously and that children entering school be studied and matched to a curriculum on the basis of an empirical knowledge of favorable child-curriculum interactions. Teachers are to be studied and matched to curricula on the basis of analogous empiral knowledge. The role of the researcher in assessment and design is discussed. (SB)

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THEORETICAL CONSIDERATION OF MULTIPLE MODEL PROGRAMMING

Murray Krantz, Ph.D.

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The extraordinary development of interest and programming in the field of early childhood education over the last fifteen years constitutes one of the most interesting and unsuccessful social movements of our time. During this period millions of children and billions of dollars have been united in a grand attempt to impact our approach to public education and to overcome our consistent failure to provide equal educational opportunity for our children. Despite the proliferation of demonstration programs, research, and the widespread commercialization and availability of early education programs, it is not possible to state at this time that early educative programming has had any demonstrable effect on the overall system of public education or improved upon our blundering attempts to provide equal educational opportunity to our children.

The greater proportion of such programming for middle-class children can be described as a relatively benign application of freeplay activities in attractive educational settings. Occasionally a theoretical position, e.g., Montessori or Piaget, has been loosely applied to lend an air of sophistication. Although these programs have little demonstrable effect on the development of these children (Swift, 1963) the positive effects on the parents and communities involved have resulted in the widespread institutionalization of such programs.

The greater proportion of such programming for lower-class and minority children can be described as the massive incarceration of preschool children in church basement day care and Head Start centers with little concern for the special educational needs of these children. In many instances the educational and developmental impact of such programs border on complete substitute child-rearing. Despite the well publicized existence of well-planned and carefully researched demonstration projects, the overwhelming proportion of early education programs for the children of the poor are a national disgrace with more potential for producing developmental dysfunction than providing positive transfer into the public school. At best these programs can be described as inappropriate applications of methods which were developed for middle-class children. Most often such programs have no theoretical base, are implemented by totally untrained staffs, and provide curriculum composed of undifferentiated piles of toys. Never in our history have so many children been so broadly exposed to untried and unproven methods of child-rearing. The negative social consequences of this programming can no longer be ignored.

The massive application of day care and early education programming will not go away. If the situation is to be improved certain changes must be brought about:

1. The public must be educated to the potential hazards of existing early childhood programs.

2. The focus of early childhood education must be placed on the welfare and development of the child rather than on the convenience of the parent.

3. We must move forward in the development of a science of early childhood education.

4. This science must be rapidly translated into community practice.

Despite the chaotic and often uncontrolled nature of this field, we have made more "scientific" progress in the last eight to ten years (since the advent of Project Head Start) than in the preceding fifty years of preschool education. To be more specific, we have learned that poor children are, in many ways, different from priviledged children and that educative programming must be specifically designed to address those "differences" if it is to be effective. The herding of ghetto children into church basements with disorganized teaching strategies and disorganized materials not only does not help survival, but is undoubtedly developmentally dysfunctional. A chaotic preschool experience is no improvement upon a chaotic home experience or a chaotic street experience. The uncompromising demands of the emerging cognitive structures of children are simply not fulfilled in piles of unselected toys and untrained but occasionally well-intentioned staff. The unleashing of "free play" as a primary mode of intervention into chaotic life experiences is analogous to trying to put out a fire with a bucket of gasoline.

Our science has progressed to the advent of the early childhood education "model". The model may be defined as an organized system for the delivery of a propitious environment to the developing child. The model presents a logic underlying its integration of system components consistent with some developmental theory. It allocates human and material resources in a manner consistent with its logic. By 1970 virtually all positions in child development theory had been used (or abused) by one or more model builders to produce a model of early childhood education (Evans, 1975). These efforts had been supported by the investment of millions of dollars of federal funds to promote the proliferation of a spectrum of competing models. Three major competing models are briefly characterized below to aid the uninitiated reader in the interpretation and understanding of extensive reference to the existing models in later discussion (the serious reformer is referred to Ellis Evans (1975) for a scholarly and readable survey of contemporary model approaches and trends in early education).

The Montessori Model. In its most traditional rendition, the Montessori approach brings a highly structured and sequentially organized physical environment to bear on the developing preschool child. The environment is organized around the successive exposure of children to a broad spectrum of preselected and precisely constructed didactic materials. Children are expected to interact with the materials in specific and increasingly sophisticated ways at various stages of their development. The aim of the "prepared environment" is to produce a child who is totally self-controlled, highly productive and work-oriented and who has a tendency to constantly strive for the collective good of all people. The active role of the teacher, so charact-

eristic of most models, is greatly deemphasized. The teacher's role is to oversee the allocation and distribution of didactic materials and to observe the quality and quantity of use of the materials by individual children. The teacher (directress) imposes goals, values, motives, and change indirectly through manipulation of the environment.

The Engelmann-Becker Model (DISTAR). Based on the assumption that the primary aim of preschool education of the poor is preparation for public school survival and achievement, the E-B model has preselected sequentially organized sets of skills in the areas of reading, math, and conceptual use of language and programmed these skills for direct inculcation. All teaching/learning is presented directly by the teacher through a complex series of verbal formats characterized by a highly intrusive presentation style. Children are taught in small ability groups and child attendance and participation are compulsory. Extensive use of behavior modification both within the curriculum presentation and for general classroom behavior management is characteristic. The aim of the E-B model is to produce a child who has an extensive academic skill preparation with emphasis on language skills. The E-B preparation is designed for maximum transfer to the ghetto public school experience. The teacher's role is active, verbal, intrusive, and controlling. The primary value orientation is maximal skill learning in the shortest period of time.

The Cognitive Stimulation Curriculum. This model generally assumes that children have a built-in tendency to solve problems or at least that it is not difficult to stimulate them to active problem solution within a well organized and systematically planned preschool environment. Problem solution, concept formation and attainment are carefully programmed in the context of an intrusive language environment. The role of the teacher is that of facilitator of problem solution and concept learning through the distribution and arrangement of didactic materials and language interchange. Piaget's theory of intellectual development is often used as the theoretical base for the development of such curricula. Differing interpretations of Piaget have cast the child and teacher in more or less active/passive roles with respect to each other. There is a pervasive tendency among various programs within this model to stress the development of didactic materials specifically designed to facilitate an active approach to problem solution in the preschool child.

The advent of the models has led academicians and practitioners in early childhood education into extensive and useless

debate with respect to a totally unscientific and unproductive question, i.e., which model of early childhood education is "best" for children. The competitive search for an all encompassing panacea has noticably blunted the potential contribution of the model development effort. The absurdity of the question of "which is best" is only surpassed by the amount of energy which has been squandered on trying to answer the question. The reader may object by asking what is wrong with the question? Don't we want the "best" for our children? The difficulty can only be explicated by a critique of the assumptions underlying the question. The question assumes that:

1. A single solution to a complex problem is somehow more acceptable than multiple solutions from a scientific viewpoint (law of parsimony).
2. Children are more similar than individually different in their response to an educational strategy or model.
3. Teachers, who implement the educational strategies will be a constant factor across strategies or even worse, all teachers will somehow perform optimally under the "best" strategy.

The first assumption may be summarily dismissed as a faulty interpretation of the law of parsimony which calls for the acceptance of the simplest of alternative explanatory principles in theory construction and was never intended to refer to or limit the number of acceptable solutions to a complex problem. Parsimony in problem solving is antithetical

to divergent thinking and creativity.

The second assumption is truly astounding. The early childhood specialists who so readily chastise those who seem to deny individual differences in their approach and theory are guilty of that which they so readily condemn. The mystique of an educational panacea has caused the basic developmental principle of individual differences to be repressed by those who value the principle so highly. Violation of the basic principle of individual differences will do violence to the development of children.

The third assumption derives from our traditional monolithic approach to teacher education in the American university and teacher college. The typical school of education demands conformity of its prospective teachers to a single philosophical approach to children and rarely admits to alternative philosophies. University teacher-trainer faculties are recruited within, rather than across, divergent philosophies. This form of academic provincialism ignores teacher individual differences as conspicuously as it deplores those who ignore such individual differences in children. A theory of teacher training and performance must recognize individual differences in teacher style, attitude, and personality.

If this question of which model or strategy is "best" is so poorly structured, how then may it be improved? There is no intent here to deny the import of asking such a question if

it will serve to guide those who would search for more comprehensive solutions to problems of early childhood education. The question must, however, be scientifically sound and amenable to scientific investigation. If it is not, valid solutions will most certainly not be forthcoming.

In attempting to restructure the question, it would seem worthwhile to derive a more relevant set of assumptions. The following assumptions merely restate the earlier list in a form more consistent with empirical data and theory on the learning and development of the young child.

1. Multiple models or multiple educational strategies will be necessary to solve the complex programming needs of heterogeneous populations of children in urban and rural environments.
2. Individual and group differences in cultural background, needs, abilities, personality and past experience will necessitate the design of a broad spectrum of programs to meet the specific patterns presented by individual children.
3. Individual differences in teacher personality suggest that matching teachers (or teacher style) to educational strategy may maximize the effectiveness of the particular model.

If these assumptions are valid, it is clear that the most significant question to be asked is of much greater complexity

than which strategy is "best". It should be apparent that initially, the question must be "best for whom"?

The general proposition offered as an alternative to the oversimplified question of "best" is tentatively stated as follows:

The curriculum will be used as a frame of reference. Curriculum will be defined as any logically organized set of operational procedures and materials for use by a teacher for the education of young children over some specified period of time. Its duration may be measured in minutes, hours, days, weeks, or years. For purposes of the discussion, three major classes of variables involved in early childhood education programming will be considered. They are:

1. Child variables (personality, motivation, past experience, learning style)
2. Curriculum variables (teacher operations and materials)
3. Teacher variables (personality, style, prior teaching experience)

It is the task of early childhood education to discover which combinations of variables within and between variable classes interact to create the most favorable educational experience. In simpler terms, each curriculum that is developed will be best suited to some group of children who display a particular pattern of personality traits, past experience, etc. Such favorable interactions of child and curriculum can only be determined by empirical means. When children are appropri-

ately matched to curriculum they learn faster and are happier. Further, each curriculum developed will be best suited to teachers who display a particular teaching style and personality. Again, this favorable interaction must be empirically determined. The teacher who has been appropriately matched to her curriculum will teach more effectively and enjoy a longer and more contented tenure in the school system.

In essence, this approach implies a "chemistry" of early childhood education variables. When appropriate combinations of basic elements are discovered, the overall effect of early childhood education can be optimized.

The task for early childhood education programming and research then becomes one of matching child personality with curriculum and with teacher personality. Favorable child-curriculum-teacher interactions should become the primary goals of early childhood education. There will undoubtedly be an extensive but finite number of child-curriculum-teacher interaction patterns which can be empirically delineated.

The early childhood program in a school or school district might then employ a multiple model design. Each school would select several of the most organized curricula available for <u>simultaneous</u> implementation. Children entering the school would be studied and <u>matched</u> to curriculum on the basis of an empirical knowledge of favorable child-curriculum interactions. Teachers would also be studied and matched or assigned to curricula on the basis of analogous empirical knowledge of

favorable teacher-curriculum interactions. An appropriate title for the above strategy would appear to be Multiple Model Programming.

The task for the researcher is immense. It requires a programmatic multivariate research design, virtually unprecedented in early childhood education research publications. A monumental difficulty lies in the primitive stage of personality assessment in children and in the measurement of teacher style and adult personality. Criteria for judging the favorableness of child-curriculum and teacher-curriculum interactions must be decided. Such decisions cannot be made strictly on empirical bases but will require moral and ethical considerations which have been so easily avoided in the prescientific era of early childhood education programming.

The most immediate and pressing requirement is for research data which will delineate the variables which underlie the match between child and curriculum. If prescriptive matching is to be conducted the process of successful and unsuccessful adjustment to existing models must be studied in detail and predictor variables must be presented in a form which will allow for individual screening. An extensive pilot study is now underway at the University of Wisconsin-Milwaukee and preliminary results will be available in May, 1976. In this study children in three models of early education have been observed and tested on a comprehensive battery of observational measures of personality, cognitive, and learning style in an

effort to predict adjustment to each of the models. A more comprehensive project involving nine classrooms of preschool disadvantaged children has recently been funded through the Wisconsin State Legislature and will provide extensive data on prescriptive matching in multiple model programs over a three year period.

The long-term end product of this effort will take an unprecedented form. Teachers will be studied and assigned to curricula in an analogous process to that applied to children. Of greater novelty, however, will be the simultaneous presence of the contributions of David Weikart, Sigfried Engelmann, Maria Montessori, Ira Gordon, and other model builders, all under the same school roof. In this design, the school is constructed eclectically as a conglomerate of models, rather than attempting to constitute an individual classroom through eclectic means. The sanctity of the model, as an educational system, is preserved, while the best interests of the children are served.

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